



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/925,909	08/09/2001	Takashige Ohta	70904-56377	4516

21874 7590 08/11/2004

EDWARDS & ANGELL, LLP  
P.O. BOX 55874  
BOSTON, MA 02205

EXAMINER

LIU, MING HUN

ART UNIT	PAPER NUMBER
----------	--------------

2675

DATE MAILED: 08/11/2004

12

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/925,909

Applicant(s)

OHTA ET AL.

Examiner

Ming-Hun Liu

Art Unit

2675

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
  - If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
  - If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
  - Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-24 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 10 and 22-24 is/are allowed.
- 6) ☒ Claim(s) 1-9, 11-19 and 21 is/are rejected.
- 7) ☒ Claim(s) 20 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date 9
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

2. Claims 1 and 2 are rejected under 35 U.S.C. 102(e) as being unpatentable by US Patent 6,426,670 to Tanaka.

In reference to claim 1, figure 1 of Tanaka shows a reference voltage chooser (item 13), where the first reference voltage is directly (v1 and v5) submitted to the selecting circuit.

In reference to claim 2, in addition to the circuit discussed in the rejection of claim 1, Tanaka also shows a second reference voltage produced through a voltage divider and then buffered to the selection circuit.

3. Claims 5 and 6 are rejected under 35 U.S.C. 102(e) as being unpatentable by US Patent 6,549,196 to Taguchi et al.

As to claims 5, figure 11 of Taguchi teaches a signal drive circuit with a voltage divider (item 6) division from at least two reference voltages (item 1) these voltages are presented to the selection circuit (item 3). A switch (item SW 11) controls the voltage division between the first and second voltages.

In reference to claim 6, by referring to figures 2 and 5, it can be seen that the switch is controlled in accordance to the image tone signal.

#### ***Claim Rejections - 35 USC § 103***

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 are rejected under 35 U.S.C. 103(a) as being unpatentable by the combination of Tanaka and US Patent 6,580,359 to Tam.

In reference to claim 3, as demonstrated in the rejection of claim 2 the portions of the circuit claimed by the applicant have been known to the art, namely the first and second voltage connections to the voltage selection circuit. What remains to be absent from Tanaka's invention is the concept of energy conservation for inactive buffers.

Tam teaches that it is well known in the art that buffers consume power (column 1, line 20). Furthermore the purpose of Tam's invention is to improve on the selection of buffer control systems (column 2, line 4).

One skilled in the art could add a control directly to Tanaka's input buffers.

It would have been obvious to one skilled in the art to add a selectable input buffer control system in order to conserve power.

6. Claims 7 and 8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Taguchi et al.

In reference to claim 7 and 8, it has been established above that Taguchi's invention utilizes a decoder to select the correct reference voltage (figure 11) and that the decoder corresponds to the image tones from the image signal. Taguchi however does not teach a decoder where the decode table can be modified.

Nonetheless, the idea of having a decoder with a plurality of possible decode tables is extremely conventional to the art. Such a concept cannot be considered novel.

One skilled in the art would have been motivated to add the capability of different decode methods to better accommodate the increase the versatility of interpreting and displaying image signals on the display.

7. Claim 4 is rejected under 35 U.S.C. 103(a) as being unpatentable by the Tanaka in view of Tam and further in view Taguchi et al.

In reference claim 4, the combination of Tanaka and Tam established the requirement for and input buffer control to a well-known voltage reference circuit. The exact relation between the control of the buffers and the gradation has not been established by either reference.

Taguchi teaches the selection of buffers for a gradation selection circuit much like the one claimed by the applicant. As seen in figure 8, a decoder 5 is used to help control the selection of the buffers. By referring to figures 2 and 5, it can be seen that the switch is controlled in accordance to the image tone signal.

One skilled in the art would have implemented Taguchi's selection method to properly turn on/off the switches in the voltage selection circuit.

Claim 9 is rejected on the grounds argued in the rejection of claims 2-8.

Claims 11 and 13 are rejected largely on grounds argued in the rejection of claims 1-4. As for the preamble, figure 4 of Taguchi demonstrates how the signal circuit is incorporated into the matrix display.

In reference to claims 12, 14, 16, 18 and 21 the references do not explicitly teach that this circuit must be used on portable devices. However, it is well known in the art that portable devices include LCD displays and also require power saving methods. It would have been obvious to one skilled in the art to include a display circuit as described by the combination of references onto a portable device because of its power saving advantages.

Claim 15 is rejected largely on grounds argued in the rejection of claims 5 and 6. As for the preamble, figure 4 of Taguchi demonstrates how the signal circuit is incorporated into the matrix display.

Claim 17 is rejected largely on grounds argued in the rejection of claims 7 and 8. As for the preamble, figure 4 of Taguchi demonstrates how the signal circuit is incorporated into the matrix display.

Claim 19 is rejected largely on grounds argued in the rejection of claim 9. As for the preamble, figure 4 of Taguchi demonstrates how the signal circuit is incorporated into the matrix display.

#### ***Allowable Subject Matter***

8. Claims 10, 22, 23 and 24 are allowed.
9. Claim 20 objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

#### ***Response to Arguments***

10. Applicant's arguments filed 5/20/2004 have been fully considered but they are not persuasive.

The rejection of claims 1 and 2, hinges on the Tanaka's figure 1. Figure 1 clearly shows that v1 and v5 that bypass buffers (121, 122 and 123) connecting directly to the voltage selection circuit (13). Therefore, Tanaka clearly anticipates the claimed structure. In addition, the applicant's arguments concerning the objective of Tanaka's circuits is inconsequential as the applicant is arguing means plus function, where in a valid rejection the structural means is already sufficient in the rejection of the claim. The applicant also failed to include the

Art Unit: 2675

functionality of his circuit in the claim language, further weakening the applicant's claim of a unique means plus function invention. Lastly, examiner disagrees with the applicant's assessment of the functionality of the Tanaka's circuit.

In reference to the applicant's arguments concerning claims 3 and 13, again the applicant argues a means plus function aspect of the invention is unconvincing. First, the functionality of the circuit is absent from the claim. Second, anticipation of the means is all that is necessary to reject the claim. In response to the applicant's argument on page 29 stating that the Tam reference is not designed for tone selection. To that the examiner would like to point to In re Kettler, 208 USPQ 871 (CCPA 1981) where the applicant cannot show non-obviousness by attacking references individually where, as here the rejections are based on combination of references.

In reference to the applicant's arguments concerning the rejection of claims 5 and 6, again the applicant argues a means plus function aspect of his invention. The applicant argues that the functionality of Taguchi's invention is different from the claimed invention. As explained before, this argument is insufficient and unconvincing. The structural means of Taguchi's invention is sufficient to anticipate the claimed invention.

### *Conclusion*

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.



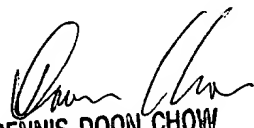
US Patent 6,762,737 to Kajihara et al. – Reference teaches a voltage selection circuit with a buffer circuit that includes a switching element to cut off current to the buffer as a means to conserve power.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ming-Hun Liu whose telephone number is 703-305-8488. The examiner can normally be reached on Mon-Fri.

The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

  
**DENNIS-DOON CHOW**  
**PRIMARY EXAMINER**